



(1) GENERAL INFORMATION

(i) APPLICANT: Koizumi, Satoshi  
Sasaki, Katsutoshi  
Endo, Tetsuo  
Tabata, Kazuhiko  
Ozaki, Akio

(ii) TITLE OF INVENTION: Processes for Producing Sugar Nucleotides

and Complex Carbohydrates ✓

(iii) NUMBER OF SEQUENCES: 27

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Fitzpatrick, Cella, Harper & Scinto  
(B) STREET: 30 Rockefeller Plaza  
(C) CITY: New York  
(D) STATE: New York  
(E) COUNTRY: USA  
(F) ZIP: 10112-3801

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Diskette, 3.50 inch, 1.4Mb storage  
(B) COMPUTER: pc  
(C) OPERATING SYSTEM: MS-DOS  
(D) SOFTWARE: PatentIn ver. 2.0

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 09/068,528  
(B) FILING DATE: 13-MAY-1998  
(C) CLASSIFICATION: 536

(viii) ATTORNEY/AGENT INFORMATION:

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(B) REGISTRATION NUMBER: 31865  
(C) REFERENCE/DOCKET NUMBER: 766.20

(ix) TELECOMMUNICATION INFORMATION:

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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GGAGAAAGCT TATGGCTGCC ATTAATACGA A

31

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A)LENGTH: 30 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:2:  
AACACGGATC CGGATGTTAC TTCTTAATGC 30

(2)INFORMATION FOR SEQ ID NO:3:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 28 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:3:  
ATGGAGGATC CTGCTCTGTA TACCGTCT 28

(2)INFORMATION FOR SEQ ID NO:4:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 20 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:4:  
TGCTGGTCGA CCTGCGCTTG 20

(2)INFORMATION FOR SEQ ID NO:5:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 31 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:5:  
AAGGAAAGCT TATGACGCAA TTTAATCCCG T 31

(2)INFORMATION FOR SEQ ID NO:6:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 20 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:6:

GCAAAGTTAA CAGTCGGTAC

20

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TCAGGAAGCT TATGTTGAAT AATGCTATGA G

31

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

TCTCCGGATC CCATGTGACC GGGTTAG

27

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 28 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TCTAAATCGA TGCAGACAAA GGACAAAG

28

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: synthetic DNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

TTGCAGGATC CTCGTAGGCC TGATAAG

27

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:11:  
TGATATCCGC TCCCTTTCCG 20

(2)INFORMATION FOR SEQ ID NO:12:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 26 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:12:  
ACAGCGGATC CGATGTGTTC GCTGAG 26

(2) INFORMATION FOR SEQ ID NO:13:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 29 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:13:  
ACAGCAAGCT TTTGACTTTA GCGGAGCAG 29

(2)INFORMATION FOR SEQ ID NO:14:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 29 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:14:  
GAGTTGGATC CCGATATAAA AGGAAGGAT 29

(2)INFORMATION FOR SEQ ID NO:15:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 25 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:15:  
TTTTTAAGCT TCATTTATCA AGAGT 25

(2) INFORMATION FOR SEQ ID NO:16:  
(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 31 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: synthetic DNA  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:  
TTTTTGATAT CCCCAATGCT GGGGGTTTTT G 31

(2) INFORMATION FOR SEQ ID NO:17:  
(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 31 base pairs  
    (b) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: synthetic DNA  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:  
CGTCAAAGCT TAAATGATAT TCGGGGATAA T 31

(2) INFORMATION FOR SEQ ID NO:18:  
(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 25 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: synthetic DNA  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:  
AGGGAGGATC CGACATTACT CGTTC 25

(2) INFORMATION FOR SEQ ID NO:19:  
(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 33 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: synthetic DNA  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:  
CCGCAAGATC TCGTAAAAAG GGTATCGATA AGC 33

(2) INFORMATION FOR SEQ ID NO:20:  
(i) SEQUENCE CHARACTERISTICS  
    (A) LENGTH: 27 base pairs  
    (B) TYPE: nucleic acid  
    (C) STRANDEDNESS: single  
    (D) TOPOLOGY: linear

(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:20:  
TTGGGAAGCT TCCGGCAAAT GTGGTTT 27

(2) INFORMATION FOR SEQ ID NO:21:  
(i)SEQUENCE CHARACTERISTICS:  
    (A)LENGTH: 25 base pairs  
    (B)TYPE: nucleic acid  
    (C)STRANDEDNESS: single  
    (D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:21:  
ATAAACTCGA GAGAGACAAG CGGAG 25

(2)INFORMATION FOR SEQ ID NO:22:  
(i)SEQUENCE CHARACTERISTICS:  
    (A)LENGTH: 27 base pairs  
    (B)TYPE: nucleic acid  
    (C)STRANDEDNESS: single  
    (D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:22:  
TATTATCGAT GAATTAATAA TTCATAG 27

(2)INFORMATION FOR SEQ ID NO:23:  
(i)SEQUENCE CHARACTERISTICS:  
    (A)LENGTH: 25 base pairs  
    (B)TYPE: nucleic acid  
    (C)STRANDEDNESS: single  
    (D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:23  
CTCTGGATCC AGTTACGTAT AATAT 25

(2)INFORMATION FOR SEQ ID NO:24:  
(i)SEQUENCE CHARACTERISTICS:  
    (A)LENGTH: 30 base pairs  
    (B)TYPE: nucleic acid  
    (C)STRANDEDNESS: single  
    (D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:24:  
CGGCAAGCTT ATTGTGCCTT TCCAATAAAA 30

(2)INFORMATION FOR SEQ ID NO:25:  
(i)SEQUENCE CHARACTERISTICS:

(A)LENGTH: 28 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:25:  
ACTTGGATCC CCGTCAATAA ATCTTGCG 28

(2) INFORMATION FOR SEQ ID NO:26:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 30 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:26:  
GGTAAAGCTT ATGCAAAACC ACGTTATCAG 30

(2)INFORMATION FOR SEQ ID NO:27:  
(i)SEQUENCE CHARACTERISTICS:  
(A)LENGTH: 29 base pairs  
(B)TYPE: nucleic acid  
(C)STRANDEDNESS: single  
(D)TOPOLOGY: linear  
(ii)MOLECULE TYPE: synthetic DNA  
(xi)SEQUENCE DESCRIPTION: SEQ ID NO:27:  
AAACGGATCC TTATTGGAAA GGCACAATA 29